Amendments to the Claims

This listing of claims will replace all prior versions, and listings, of claims in the application:

1-171. (Canceled)

172. (Currently Amended) A ~~genetic construct~~double-stranded synthetic gene comprising:

a first ~~nucleotide~~structural gene sequence ~~of~~comprising 20-30 consecutive nucleotides identical in sequence to a region of a target gene encoding a viral DNA polymerase, a viral RNA polymerase or a viral coat protein in a mammalian cell;

a second ~~nucleotide~~structural gene sequence ~~of~~comprising 20-30 consecutive nucleotides ~~complementing~~identical in sequence to, and in an inverted orientation relative to, the 20-30 consecutive nucleotides of the first ~~nucleotide~~structural gene sequence, such that a repeating sequence of only 20-30 consecutive nucleotides in length identical to the region of the target gene is present in the synthetic gene;

a stuffer fragment which consists of nucleotides and which is between and links the first and second ~~nucleotide~~structural gene sequences;

a promoter operable in the mammalian cell; and

a transcription termination sequence active in the mammalian cell,

~~wherein the first nucleotide sequence, the stuffer fragment, the second nucleotide sequence, the promoter and the transcription termination sequence are in the same nucleic acid, and~~

wherein the repeating sequence within the synthetic gene is only 20-30 nucleotides in length, and

wherein the first ~~nucleotide~~structural gene sequence, the stuffer fragment and the second ~~nucleotide~~structural gene sequence are all ~~placed~~ operably ~~under the control of~~connected to the promoter and the transcription termination sequence.

173-175. (Canceled)

176. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the region of the target gene is in an exon.

177. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the target gene is from a lentivirus.

178. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the target gene is from an immunodeficiency virus.

179. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the target gene is from a single-stranded (+) RNA virus.

180. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the target gene is a transgene in the mammalian cell.

181. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the stuffer fragment

is a sequence of nucleotides 10-50 nucleotides in length.

182. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the stuffer fragment is a sequence of nucleotides 50-100 nucleotides in length.

183. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the stuffer fragment is a sequence of nucleotides 100-500 nucleotides in length.

184. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the total length of the ~~genetic construct~~double-stranded synthetic gene is no more than 0.5-2.0 kilobases.

185. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the ~~genetic construct~~double-stranded synthetic gene is in a virus particle.

186. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the ~~genetic construct~~double-stranded synthetic gene is in a liposome.

187. (Currently Amended) The ~~genetic construct~~double-stranded synthetic gene of claim 172, wherein the ~~genetic construct~~double-stranded synthetic gene is integrated into the genome of the mammalian cell.

188. (Currently Amended) A mammalian cell having a synthetic gene comprising:

a first ~~nucleotide~~structural gene sequence ~~of~~comprising

20-30 consecutive nucleotides identical in sequence to a region of a target gene encoding a viral DNA polymerase, a viral RNA polymerase or a viral coat protein in the mammalian cell;

a second ~~nucleotide~~structural gene sequence ~~of~~comprising 20-30 consecutive nucleotides ~~complementing~~identical in sequence to, and in an inverted orientation relative to, the 20-30 consecutive nucleotides of the first ~~nucleotide~~structural gene sequence, such that a repeating sequence of only 20-30 consecutive nucleotides in length identical to the region of the target gene is present in the synthetic gene;

a stuffer fragment which consists of nucleotides and which is between and links the first and second ~~nucleotide~~structural gene sequences;

a promoter operable in the mammalian cell; and

a transcription termination sequence active in the mammalian cell,

~~wherein the first nucleotide sequence, the stuffer fragment, the second nucleotide sequence, the promoter and the transcription termination sequence are in the same nucleic acid, and~~

wherein the repeating sequence within the synthetic gene is only 20-30 nucleotides in length, and

wherein the first ~~nucleotide~~structural gene sequence, the stuffer fragment and the second ~~nucleotide~~structural gene sequence are all ~~placed~~ operably ~~under the control of~~connected to the promoter and the transcription termination sequence.

189. (Canceled)

190. (Previously Presented) The mammalian cell of claim 188, wherein the region of the target gene is in an exon.

191. (Previously Presented) The mammalian cell of claim 188, wherein the target gene is from a lentivirus.

192. (Previously Presented) The mammalian cell of claim 188, wherein the target gene is from an immunodeficiency virus.

193. (Previously Presented) The mammalian cell of claim 188, wherein the target gene is from a single-stranded (+) RNA virus.

194. (Previously Presented) The mammalian cell of claim 188, wherein the target gene is a transgene in the mammalian cell.

195. (Previously Presented) The mammalian cell of claim 188, wherein the stuffer fragment is a sequence of nucleotides 10-50 nucleotides in length.

196. (Previously Presented) The mammalian cell of claim 188, wherein the stuffer fragment is a sequence of nucleotides 50-100 nucleotides in length.

197. (Previously Presented) The mammalian cell of claim 188, wherein the stuffer fragment is a sequence of nucleotides 100-500 nucleotides in length.

198. (Canceled)

199. (Currently Amended) The mammalian cell of claim 188, wherein the ~~first nucleotide sequence, the second~~

~~nucleotide sequence, the stuffer fragment, the promoter and the transcript termination sequence are~~synthetic gene is integrated into the genome of the mammalian cell.

200. (Currently Amended) An isolated mammalian cell, tissue or organ, having a synthetic gene comprising:

a first ~~nucleotide~~structural gene sequence ~~of~~comprising 20-30 consecutive nucleotides identical in sequence to a region of a target gene encoding a viral DNA polymerase, a viral RNA polymerase or a viral coat protein in the mammalian cell;

a second ~~nucleotide~~structural gene sequence ~~of~~comprising ~~complementing~~identical in sequence to, and in an inverted orientation relative to, the 20-30 consecutive nucleotides of the first ~~nucleotide~~structural gene sequence, such that a repeating sequence of only 20-30 consecutive nucleotides in length identical to the region of the target gene is present in the synthetic gene;

a stuffer fragment which consists of nucleotides and which is between and links the first and second ~~nucleotide~~structural gene sequences;

a promoter operable in the mammalian cell; and

a transcription termination sequence active in the mammalian cell,

~~wherein the first nucleotide sequence, the stuffer fragment, the second nucleotide sequence, the promoter and the transcription termination sequence are in the same nucleic acid, and~~

wherein the repeating sequence within the synthetic gene is only 20-30 nucleotides in length, and

wherein the first ~~nucleotide~~structural gene sequence, the stuffer fragment and the second ~~nucleotide~~structural gene

sequence are all ~~placed~~ operably ~~under the control of~~connected to the promoter and the transcription termination sequence.

201. (Canceled)

202. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the region of the target gene is in an exon.

203. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the target gene is from a lentivirus.

204. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the target gene is from an immunodeficiency virus.

205. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the target gene is from a single-stranded (+) RNA virus.

206. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the target gene is a transgene in the mammalian cell.

207. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the stuffer fragment is a sequence of nucleotides 10-50 nucleotides in length.

208. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the stuffer fragment is a sequence of nucleotides 50-100 nucleotides in length.

209. (Previously Presented) The isolated mammalian cell, tissue or organ of claim 200, wherein the stuffer fragment is a sequence of nucleotides 100-500 nucleotides in length.

210. (Canceled)

211. (Currently Amended) The isolated mammalian cell, tissue or organ of claim 200, wherein the ~~first nucleotide sequence, the second nucleotide sequence, the stuffer fragment, the promoter and the transcription termination sequence are~~ synthetic gene is integrated into the genome of the isolated mammalian cell, tissue or organ.